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California Regional Water Quality Control Board
San Diego Region 9
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April 11, 2007

RE: Tentative Order No. R9-2007-0002 NPDES, No. CAS0108740

The members of the community of South Laguna represented by the South Laguna Civic Association, established in 1946, recognizes urban runoff from dry weather flows continues to be discharged through regional storm drain systems permitted exclusively to convey rain water.

The proposed SDRWQCB Tentative Order No. R9-2007-0002 knowingly, willfully and intentionally perpetuates a threat to health and safety and contributes to degradation of local creek and coastal water resources by allowing MS4 storm drain systems to transport polluted water originating from the imported water supply industry. Dry weather flow rates in the subject watershed presently exceed all previous flow rates and are recognized as the principle source of nutrient loading and ocean pollution. Chemical fingerprinting analysis of urban runoff by the Santa Margarita Water District attributes the source of 60% to 90% of urban runoff dry weather flows as originating from imported water sources in either Northern California or Colorado. Dry weather flows to storm drains are from anthropogenic influences rather than natural storm events.

Seminal research by the University of Southern California and others concludes urban runoff is responsible for feeding prolonged, destructive algae blooms along the Southern California Bight. In conveying inland sources of fertilizer and phosphates nutrients, dry weather urban runoff estimated at 6,000,000 gallons per day in the Aliso Watershed alone is causing increased outbreaks of domoic acid poisoning and deaths among sea mammals in Laguna Beach. The SDRWQCB fails to take into consideration impacts of uncontrolled dry season urban runoff on the health and welfare of coastal receiving waters. In spite of repeated requests, the SDRWQCB and Co-Permittees to not incorporate the urban runoff ocean plume into the watershed mapping procedure rendering decision making ineffective and monitoring activities scientifically incomplete.

As indicated in Staff Reports, the SDRWQCB, South Orange County Wastewater Authority (SOCWA), inland cities and County Co-Permittees continue to fail to Cleanup and Abate contaminated dry weather urban runoff flows and thereby violate key statutes of the Porter-Cologne Act and Clean Water Act.

In allowing the County and City Co-Permittees to continue to discharge polluted urban runoff water flows, the members of the SLCA and the general public are denied access to safe, unpolluted coastal recreational opportunities while exposing them to known respiratory and digestive illnesses. The incremental and cumulative discharge

from Aliso Watershed storm drains also knowingly and willfully contributes to potential health risks from consuming local fish.

Likewise, potential private property values are threatened by disclosures during real estate transactions of public health hazards emanating from polluted coastal waters. Residences at the mouth of Aliso Creek are permanently damaged by summer urban runoff from erosion and stagnant ponds. Damage from urban runoff pollution to critical kelp habitats and marine mammals characteristic of South Laguna Marine Reserve off of Aliso Beach are well documented in the scientific literature.

The Aliso Watershed has more than 64 storm drains with elevated fecal coliform levels and excessive flow rates. The inability of the SDRWQCB over the past 20 years to control illegal dry weather discharges suggests a pattern of failed interventions portending a dangerous precedent of chronic future water pollution to the community of South Laguna with a population of 5,000 residents and the general beach visiting public.

The South Laguna Civic Association (SLCA) seeks a thorough review of the laws, regulations and facts pertaining to mismanagement of the subject MS4 Storm Drain Permit. Verifiable action capable of significant reductions in dry weather flow rates must be implemented. Numerical flow rate reduction, specific performance benchmark deadlines and significant penalties for non-compliance must be incorporated into any credible permitting process. Interception of urban runoff flows at known inland point sources is technologically feasible through deployment of approved Best Available Control Technologies presently used by the development, military and oil industries. If necessary, a watershed Cleanup and Abatement Order can accelerate permitting and fast track measures until such time full compliance is achieved.

Failure to mitigate or comply requires the SDRWQCB to be directed to California Water Code Section 13304(a) and following to seek an injunction against the County and offending cities or perform the work itself.

Concurrent with the present evaluation of Tentative Order No. R9-2007-0002, the SLCA seeks emergency action due to significant, immediate and potential harm from known health risks associated with dry weather urban runoff conveying elevated levels of fecal coliform contamination to South Laguna since:

1. Substantial harm to the community of South Laguna will continue to occur this summer from exposure to dry-weather flows of contaminated urban runoff in the subject watershed. The approval of a systematically flawed MS4 Storm Drain Program will establish a dangerous precedent in the Aliso Creek Watershed and other impaired watersheds in the State of California to the detriment of South Laguna's public health and safety as well as the protection of natural resources.
2. Neither the inland cities, County, SDRWQCB, SOCWA nor public will incur substantial harm from issuance of a comprehensive dry weather storm

drain management program. The South Laguna Civic Association, in fact, will benefit from incremental reduction of contaminated flows from inland storm drains into creek and coastal receiving waters. Establishing a pattern of enforcement and full compliance with cleanup and abatement laws will initiate additional timely actions by the SDRWQCB to improve water quality in the Aliso Watershed and elsewhere. Costs associated with a comprehensive program to control dry weather flows can be minimized by fines, deployment of cost saving water conservation measures and revenues generated from beneficial reuse opportunities of 6 million gallons of urban runoff per day in the Aliso Watershed.

3. As indicated in this and other communications, substantial questions of fact and law are associated with the proposed Tentative Order No. R9-2007-0002. The fact remains that immediate compliance and cessation of dry weather urban runoff is technologically and economically feasible as demonstrated by earlier diversions to the Moulton Niguel Water District's sewer treatment facility and, later, short term operation of mobilized urban runoff filtration units. The narrative below cites a number of laws pertaining to enforcement of Cleanup and Abatement Orders (California Water Code Section 13304); the SWRCB Water Quality Enforcement Policy (February 19, 2002; pages 3,4,11,26, 39,42); regulations and policies governing Environmental Justice (Government Code Section 65040.12 and Public Resources Code Section 72000).

The County and City Co-Permittees concede their failure to Cleanup and Abate elevated levels of fecal coliform and increased urban runoff flow rates in the Aliso Watershed. The SDRWQCB does not comply with California Water Code Section 13304. Indeed, during the past 20 years, the Regional Board has failed to effectively intervene.

California Water Code Section 213300-13308, Chapter 5, provides the SDRWQCB Enforcement authority to issue a Cleanup and Abatement Order to remedy dry weather urban runoff.

Section 13304(a) "Upon failure of any person to comply with a cleanup and abatement order, the attorney general, at the request of the board, shall petition the Superior Court of the County for an issuance of an injunction requiring the person to comply with the order."

The SDRWQCB unwillingness to enforce compliance also violates Section 13304 (1)(b);(2)(a), (c), (e) to expend available money themselves to perform cleanup, abatement or remedial work; to intervene to perform the work itself; recover costs for cleanup and abatement work; and protect or prevent threatened probability of harm to persons, property or natural resources.

It is again worth noting, temporary compliance was achieved in 2003 utilizing mobilized water filtration units recognized among Best Management Practices (BMP). During its brief period of operation, the above BMP treated over 14 million

gallons at JO3PO2 to reduce fecal coliform from 10,000 cfu's to less than 1. The SDRWQCB, SOCWA, Moulton Niguel Water District, City of Laguna Niguel and County dischargers arbitrarily elected to terminate this effective technology to experiment with low cost constructed wetlands, which ultimately failed to reach compliance levels for fecal coliform at the JO3PO2 outlet and took no effort to remove flows originating from abandoned imported water sources.

The SWRCB Water Quality Enforcement Policy (February 19, 2002; pages 3,4,11,26, 39,42) specifically directs the Regional Board to take action against the following:

- Any knowing, willful, or intentional violation of the (Porter Cologne Act)
- Any violation of (the Porter Cologne Act) that enables the violator to benefit economically from noncompliance, either by realizing reduced costs or by gaining a competitive edge advantage.
- Any violation that is a chronic violation or that is committed by a recalcitrant violator.
- Any violation that cannot be corrected in 30 days.

The SDRWQCB has taken no action pursuant to the above policies while proceeding to accommodate City and County Co-Permittees, Water Districts, SOCWA and developers at the expense of and detriment to the members of the SLCA and the general public.

Section 13350(m) of the Porter-Cologne Clean Water Act defines nuisance as anything which meets all of the following requirements:

1. Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life and property.
2. Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal.
3. Occurs during, or as a result of, the treatment or disposal of wastes.

Dry weather urban runoff meets and exceeds the legal definition of "nuisance" by virtue of its widespread impacts to water quality variables. "Waste" refers to "waste water" knowingly and willfully generated by imported and reclaimed water sold at reduced rates that ignore significant post-irrigation dry weather urban runoff impacts.

Members of the South Laguna Civic Association are at particular risk of injurious health from frequent exposure to pollution in Aliso Creek and recreational coastal water activities. Such threats and illnesses create an obstruction to the free use of public property at local County parks, protect State Marine Reserves and beaches to thereby interfere with the comfortable enjoyment of life and property.

The extent of annoyance and damage is unequal with increasing harm to individuals such as swimmers, surfers, SCUBA divers, etc. with more frequent contact to polluted creek and ocean waters according to recent studies by the University of

California, Irvine. Young children playing long hours at the beach and pregnant women are particularly high-risk populations.

The casual relationship occurring with the discharge of contaminated urban runoff wastewater with elevated fecal coliform levels is well established in scientific and medical literature as to impose a viable threat to the community of South Laguna.

Government Code Section 65040.12 and Public Resources Code Section 72000 states:

“...the fair treatment of people of all races, cultures and income with respect to the development, adoption, implementation and enforcement of environmental laws, regulations and policies”

The proposed Tentative Order No. R9-2007-0002 is discriminatory and violates the State of California's definition of Environmental Justice.

As previously noted, the community of South Laguna and visitors to the Aliso Creek Watershed and Aliso Creek County Beach have entreated the SDRWQCB for decades for relief from polluted urban runoff flows resulting from the non-regulation or enforcement of the County/City's chronic storm drain discharges of dry season urban runoff. Local low income and working class residents have suffered damages to health, safety and liberty in their access to Aliso Creek and the Pacific Ocean. Despite the obvious tangible and verifiable nature of these damages, South Laguna and the general public have yet to receive any effective regulatory assistance either from the State or Regional Water Boards.

This failure to provide relief is not due to any lack of knowledge or information.

The SDRWQCB has repeatedly and extensively investigated the mechanism by which storm drains physically convey fecal coliform bacteria and other contaminants downstream into the Aliso/Woods Canyon Regional Wilderness Park, South Laguna and the Aliso Creek County Beach. There remains no doubt that the City/County dry weather storm drain discharges are the cause of summer beach and ocean pollution. Despite this clear and present causal relationship, the SDRWQCB and Staff have denied pleas from the public for remedial action in the form of abatement of non-seasonal storm drain urban runoff, beneficial reuse for sustainable treatment projects, water conservation and immediate temporary mobilized emergency capture/treatment options common among petrochemical, agribusiness and development economic sectors. In addition, the SDRWCB has not supplied a contingency emergency plan to protect our community and the public from current and summer dry weather MS4 storm drain discharges.

Instead, the Regional Board has relied on promulgating more general directives and future contamination tables, which may or may not be effective in abating polluted urban runoff. The proposed Tentative Order No. R9-2007-0002 is to accommodate the failures of inland Water Districts, SOCWA, Cities and County at the expense of the community, public and ocean ecology.

The SDRWQCB action when combined with the Staff and City/County history of ineffective action towards the residents and visitors of South Laguna, have the cumulative effect of giving second class status to the physical health and safety needs of the public in the Aliso Watershed. Thus any action by the Regional Board to approve the use of MS4 Storm Drain System to knowingly convey dry weather urban runoff flows is discriminatory and violates the State of California's definition of Environmental Justice.

Conclusion

The general regulations, requirements and studies pertaining to the Aliso Creek Watershed and associated MS4 Storm Drain System are clearly not effective in controlling water pollution or the effects of artificially elevated flow rates during the area's annual ten month dry season.

More than twenty years and \$20 million dedicated to achieve compliance in a relatively small, compact 34 square miles residential development watershed is an enormous investment and, ultimately, waste of taxpayer revenues. The failure to achieve compliance represents a lost opportunity to demonstrate effective interventions to protect communities like South Laguna from polluted urban runoff and sends a message to the public that urban runoff pollution cannot be controlled.

Despite the various failed efforts over two decades, the fact remains numerous State laws are being violated by the SDRWCB for allowing the discharge of dry weather flows with elevated fecal coliform levels to continue to pollute daily the protected receiving waters of Aliso Creek and the Pacific Ocean. By this communication, the SLCA reserves the right to appeal any unfavorable decision perpetuating dry season urban runoff flows to Aliso Beach, South Laguna to the SWRCB and State Attorney General for timely relief.

The South Laguna Civic Association appreciates the efforts by the San Diego Regional Water Quality Control Board to consider the enormous impacts of uncontrolled dry weather urban runoff pollution before approving a genuinely effective Storm Drain Permit Program for the Aliso Watershed.

Respectfully submitted,

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April 23, 2007

RE: Tentative Order No. R9-2007-0002 NPDES, No. CAS0108740
 Supplemental Comments

The members of the community of South Laguna represented by the South Laguna Civic Association, established in 1946, recognizes urban runoff is directly the result of dry weather flows. SLCA objects to the continued discharge of urban runoff through Co-Permittees regional storm drain systems. In doing so, Co-Permittees knowingly and willfully create and sustain ocean pollution in our coastal village.

California Water Code, Division 7, Sections 13000 & 13529.2 prohibit the "minor discharge of recycled water" and asserts "the use of potable" for irrigation "is a waste". Section 13142.5, moreover, provides specific protections for water quality and the coastal marine environment.

Section 13142.5: In addition to any other policies established pursuant to this division, the policies of the state with respect to water quality as it relates to the coastal marine environment are that: (a) Wastewater discharges shall be treated to protect present and future beneficial uses, and, where feasible, to restore past beneficial uses of the receiving waters. Highest priority shall be given to improving or eliminating discharges that adversely affect any of the following:

- (1) Wetlands, estuaries, and other biologically sensitive sites.
- (2) Areas important for water contact sports.
- (3) Areas that produce shellfish for human consumption.
- (4) Ocean areas subject to massive waste discharge.

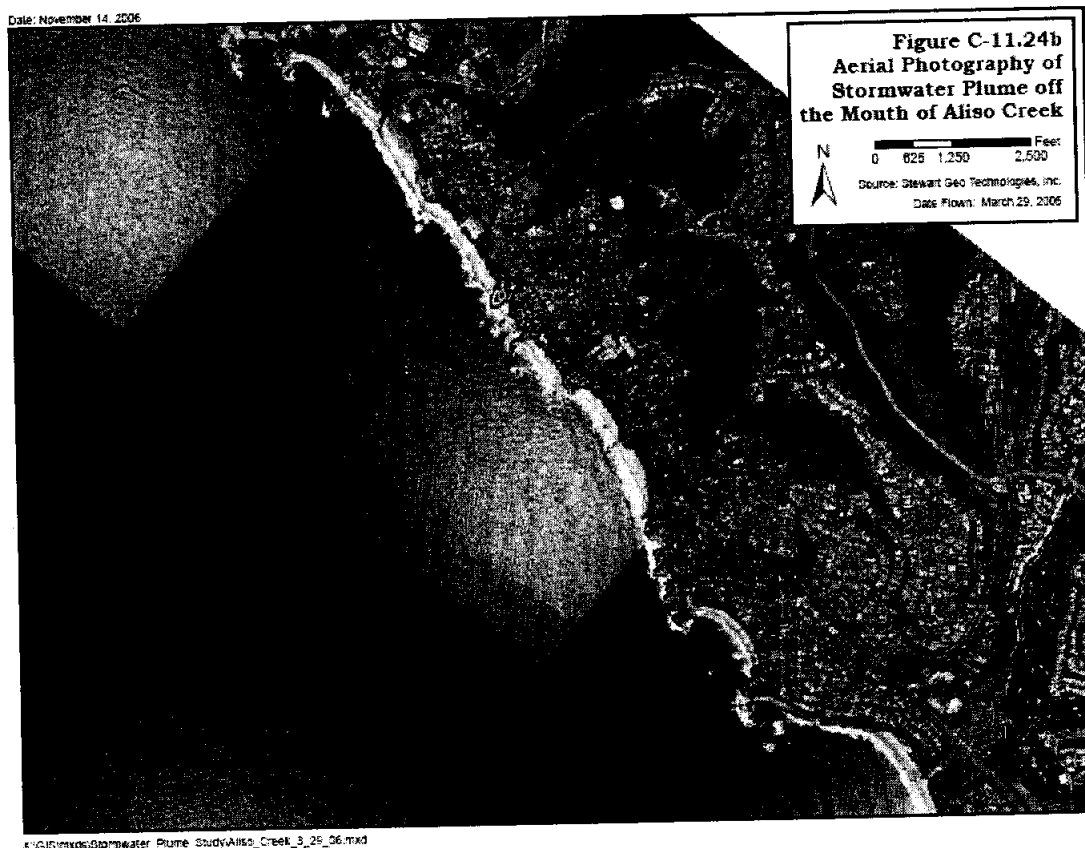
Ocean chemistry and mixing processes, marine life conditions, other present or proposed outfalls in the vicinity, and relevant aspects of area wide waste treatment management plans and programs, but not of convenience to the discharger, shall for the purposes of this section, be considered in determining the effects of such discharges. Toxic and hard-to-treat substances should be pretreated at the source if such substances would be incompatible with effective and economical treatment in municipal treatment plants."

Clean Water Act, Article 4, Chapter 3, Section 60310(e) of Title 22, California Code of Regulations requires "any irrigation water shall be confined...". "Waste includes sewage and any and all substances associated with human habitation or human origin" such as, urban runoff. The California Constitution (Section 2, Article X) mandates "All waters of the State be put to beneficial use".

Taken together, these laws and regulations provide a framework to challenge the present practices of Co-Permittees to illegally utilize the MS4 System to discharge irrigation runoff originating from recycled or potable water supplies.

Clearly, the majority of residential development projects and associated commercial and municipal facilities in the Aliso Watershed have seriously defective runoff management programs. Mandated "Best Management Practices" over the past twenty years have made water quality in creek and coastal receiving waters worse. Throughout the watershed, development runoff detention basins and retention basins are improperly maintained and fail to capture dry season flows or storm events as designed, engineered and installed. In this respect, most Development Conditions of Approval are presently non-compliant.

The Co-Permittees have expended in excess of \$20 million over the past 15 years to unsuccessfully address the water pollution problems associated with urban runoff. This enormous waste of limited taxpayer revenues suggests the need for more aggressive regulatory actions by the SDRWQCB to cleanup and abate urban runoff flows in this particular watershed. Indeed, present practices by Co-Permittees to abuse the MS4 system have led to an exponential increase of toxic flows to coastal receiving waters to peak levels of 6,000,000 million gallons per day from earlier levels of 0 to 1 million gallons per day.



As the above aerial photo illustrates, the Aliso Watershed Urban Runoff Ocean Plume, indicated by the green algae bloom, extends more than one mile offshore into the South Laguna State Marine Refuge, established in 1968, southerly to Three Arch Bay. Co-Permitees and the SDRWQCB routinely omit mapping and monitoring of the toxic ocean plume in contravention to State mandates to protect and preserve coastal receiving waters for beneficial use. This program deficiency intentionally masks the full impacts of urban runoff pollution to the detriment of the health and safety of residents of South Laguna and visitors to the area.

Water Quantity: A New Determinant Water Quality Variable

As the science of urban runoff evolves, traditional concerns for water quality are beginning to consider the role of water flow rates or “*water quantity*” in mobilizing, transporting and distributing a variety of pollution constituents. Whether the source of contamination is pet fecal matter, herbicides, pesticides or automotive residues, water quality is influenced by the amount of water present to transport contaminants into natural watershed resources including creek, riparian, wetland, estuarine, tidepool and nearshore coastal habitats.

Water Quality or Water Quantity

Every molecule of water has an affinity to bond. As water becomes mobile urban runoff, it will attempt to bond to harmful herbicide residues, pesticides, fertilizers, automobile exhaust particulate matter and a toxic spectrum of chemicals. When urban runoff reaches natural creeks, streams, and rivers, contaminated water will also bond to soil thereby increasing streambank erosion and coastal sedimentation.

The “sediment transport quotient” of water, which constitutes urban runoff, is satisfied when each molecule of water achieves bonding stasis. More water entering the urban runoff flow rate will require increased bonding opportunities and, in the case of natural settings, more soil erosion leading to distressed if not completely dysfunctional natural habitats.

What are some of the known effects of elevated urban runoff flows? At the extreme, elevated urban runoff flows can literally flood at entire habitat and community. High flows in deforested terrain are responsible for surficial slope failures and deadly mudslides. Among ecologically oriented restoration projects in a semi-arid setting such as the Aliso Watershed, elevated flows contribute to stream bank erosion exposing and undermining the vast root network of ancient oaks and sycamores. This eliminates natural shade cover that would otherwise insure lower creekwater temperatures and, hence, less algae and bacterial growth.

Elevated flows influence the breath, depth and duration of contact between urban runoff and established resources of streambed and stream bank sediment, foliage, wildlife habitats and infrastructure (i.e. bridges, subterranean sewer lines, pipes, etc.).

Hydromodification by development engineers to create and sustain large quantities of summer nuisance flows saturate and soften stream banks. Saturated soil, in turn, promotes development of harmful root fungus to weaken crucial stands of trees and vegetation. When annual storm

events do occur, these pre-saturated areas rapidly collapse to accelerate “head-cutting” and carve wider, steeper stream banks to undermine the root structure of protective tree cover.

Ecology Now

The popular use of terms like “ecological” and “ecosystem” to describe restoration efforts has lead to some confusion and inappropriate projects. Ecology “deals with the relationship between living organisms and their environment”. By environment, there is an implication of a natural setting rather than an artificially created habitat. Every “natural” environment is water dependent. Too little water will dehydrate resources leading to extinction. Likewise, too much water will literally drown plant and animal life. A credible ecological approach must therefore define the natural water conditions and adjust flows to best replicate ideal flow rates.

In the case of the Aliso Watershed, historical records from 1960 or earlier can be used to quantify monthly flow rates in this definitive semi-arid ecology. From pre-development baseline data, restoration efforts can proceed to calibrate project flow rates to approximate historical flow levels. In some instances, a given restoration effort may seek to mitigate loss of habitat due to development by increasing aquatic resources. A “proximate natural flow rate” to contribute an additional 10% beyond historic creek flows will achieve the twin goals of ecological creek stabilization and mitigation measures to add water resources that promote the welfare of animal species in the area. A balanced formula of water quantity levels can be monitored to sustain genuine semi-arid ecological restoration.

“New Water” Resources

While wetland restoration projects can successfully metabolize water quality contaminants and even reduce some water quantity flow rates through evapotranspiration at a given site, post project flows or “tailing water” will continue to deteriorate sensitive downstream aquatic habitats. Post project flows are gaining credibility in producing relatively clean water but are unable to significantly reduce overall watershed flow rates. Consequently, localized Army Corp of Engineer Section 206 aquatic habitat restoration projects may actually aggravate and contribute to regional, downstream deterioration.

As the previous discussion notes, water quantity impacts observed within a given restoration site often apply to the same features among downstream, post project settings. Accelerated erosion and stream bank destabilization downstream will inevitably impact natural coastal estuaries dependent on low creekwater inputs. Elevated downstream flows are also responsible for transporting sediment and contaminants to beach, tidepool and nearshore settings. Silt deposition functions to seal and “smother” estuary creek sandbeds to inhibit seepage and groundwater recharge while spawning stagnate, bacteria laden ponds. Sedimentation also blankets critical rock substrata along nearshore coastal habitats with adverse consequences for sealife and the ability of kelp to anchor holdfasts necessary for their survival. The downstream and coastal threats to public health and safety coupled with impacts to local economies are obvious.

As elevated urban post project flows accumulate, naturally protective beach sand berms are flooded and breached to discharge silt and sediment into tidepool habitats with devastating

consequences. Likewise, post project flows create a “freshwater lense” effect to elevate nearshore seawater temperatures and salinity while feeding toxic algae or “red tide” blooms rendering ancient kelp forests to extinction. For these many reasons, excess post project urban runoff water that will negatively impact and erode downstream settings is recently being reframed as a potential, feasible source for irrigation and groundwater recharging strategies.

Public Policy Implications

Fragmented governance can lead to unintended consequences for downstream aquatic restoration projects. Coastal wetland recovery, a major priority for state and federal agencies, is impossible in the presence of continuous flows of elevated water quantities, i.e., a combination of non-native urban runoff from upstream restoration tailing water mixed with traditional known point sources among stormdrains at inland residential, recreational, municipal and commercial developments.

A genuinely ecological approach will incorporate strategies, techniques and technologies in a “Bioregional Watershed Management Program” (see attached) to scientifically account for all ecological and social ecological variables influencing the overall health of a region. Key to a bioregional program is accurate baseline mapping of flow rates throughout the watershed as well as above, below and within a targeted Section 206 aquatic habitat restoration project site. Likewise, watershed creek flow rates and water quantities at strategic monitoring stations from the headwaters to golf courses to the beach and ocean urban runoff plume will track and reveal negative aquatic habitat impacts and potential restoration sites.

Applying the efficacious foundations of the recycling paradigm to a bioregional watershed program suggests a number of direct and in-direct benefits to water harvesting strategies. Downstream impacts, as noted, are dramatically reduced when Section 206 post project tailing waters are harvested and redeployed for beneficial reuse opportunities. The costs to polish this new source of local water are mitigated through resale as reclaimed water for irrigation and other uses as mandated by the Porter Cologne Act (e.g., dual plumbing in commercial and municipal buildings for toilets and air conditioners, irrigation, internal and external fire sprinkler systems, local emergency/crisis water supplies, etc.). A four-step water purification process at the Orange County Water District uses microfiltration, reverse osmosis, ultraviolet light and natural filtration. Recent scales of efficiencies fueled by an increased demand for water filtration technologies has created compact fleets of Mobilized Urban Runoff Filtration (MURF) Units capable of 96 hour deployment to capture, harvest, filter and redistribute up to 1 MGD to protect creeks and coasts from urban runoff pollution.

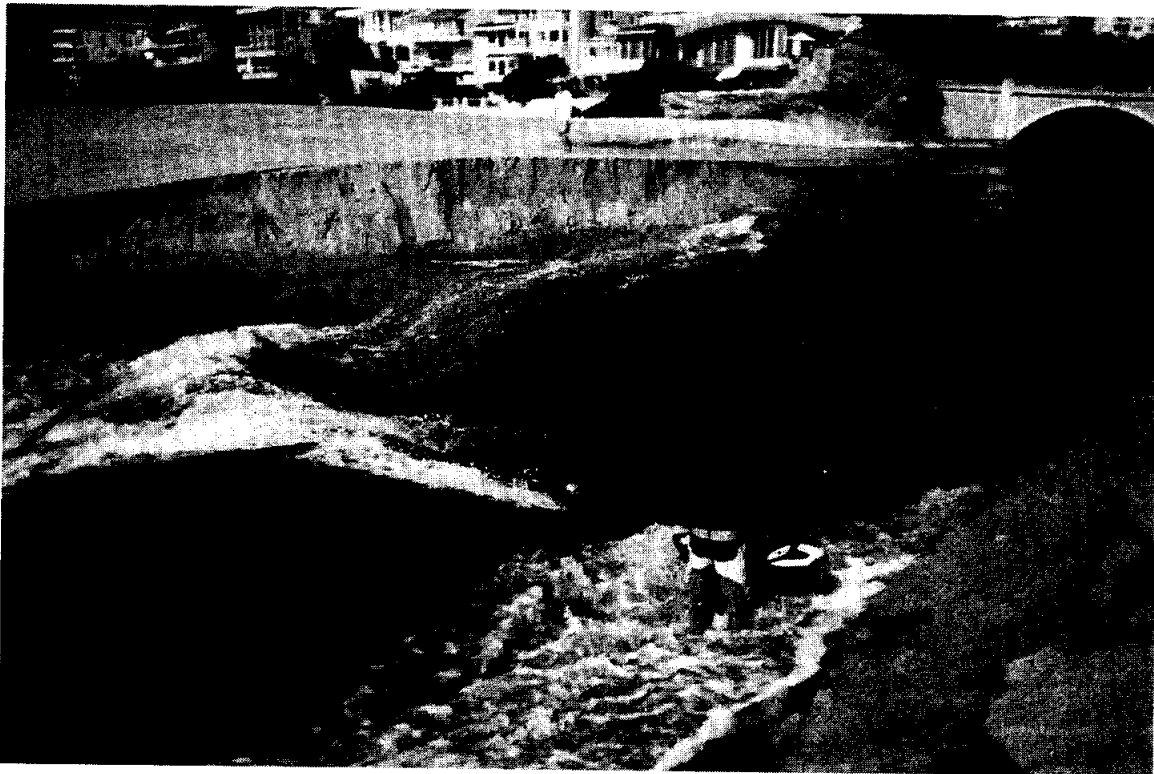
Additional economic benefits are acquired by electrical credits on the regional power grid. As noted by OCWD Board President Philip Anthony, “water purification uses one-half the energy required to bring water here from Northern California” or the Colorado River. Incentives and subsidies from the Metropolitan Water District, grants from the State Water Resources Control Board and numerous coastal conservancy groups and wetland mitigation banks can support initial three-year pilot demonstration projects to launch and refine sustainable, long-term urban runoff harvesting projects across the country and around the world.

Public agencies collaborating with progressive, ecologically oriented engineers, dedicated environmental groups and the emerging water filtration industry are harvesting urban runoff to locally produce reclaimed and even potable water supplies. Decentralized neighborhood cisterns capture storm water and dry weather urban runoff flows to create local sources of water and ease cumulative runoff pressure on the creeks and coast of a given area. Each new project generates significant, verifiable field data to advance bioregional watershed management programs and beneficial reuse opportunities. Regulatory agencies are wise to support these creative initiatives as water quantity assumes a key determinant role in successful water quality endeavors.

Actions by the SDRWQCB must adhere to the precautionary principle in protecting coastal communities from upstream water quality and water quantity impacts arising from the illegal use by Co-Permittees of MS4 infrastructure to convey dry weather flows to the coast.

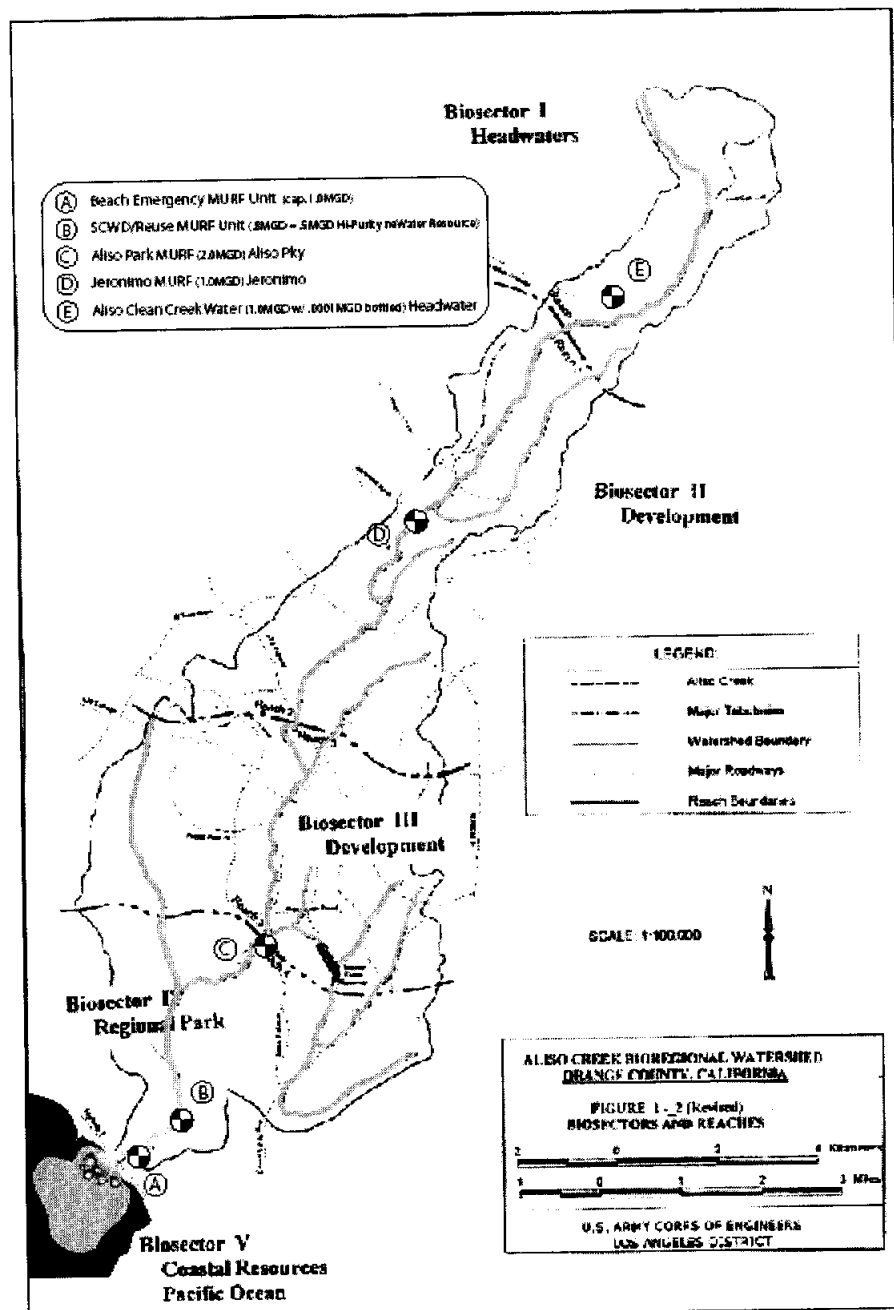
Recommended Actions

1. The pattern of negligence and waste characterizing systematic failed measures by Co-Permitees demands intervention by the SDRWCB to institute Cleanup and Abatement measures aimed at numerical reductions of contaminated flow rates in a prompt, specific timetable at known inland MS4 facilities.
2. Issue citations against Co-Permitees for creating and perpetuating an attractive public nuisance by knowingly allowing inland dry weather MS4 discharges to accumulate and pollute a coastal estuarine wetland, Aliso Beach and the South Laguna State Marine Refuge.



Illegal breaching of natural beach sand berm
to create attractive public nuisance

3. SDRWQCB interventions can include:
 - Diversions to inland SOCWA facilities for treatment and reuse as reclaimed water
 - Strategic capture of MS4 discharges for filtration and local beneficial reuse until Co-Permitees demonstrate measurable results over the next 3 to 10 years capable of removing dry weather urban runoff.



- Fines levied against offending subwatershed, cities, homeowner associations, golf courses and others with elevated dry season discharge rates detected during monitoring activities
- Fines levied against offending inland water districts for failing to control urban runoff (i.e. "imported water byproduct") through monitoring, punitive pricing structure and more aggressive recycled water programs

4. During the permit period, Co-Permitees have failed to achieve measurable reductions in MS4 discharges. SDRWQCB must exercise authority and assume control over the present, clearly defective watershed management programs. Private subcontractor services can be retained with stipulations for numerical reductions of flows and constituents within time certain performance parameters. Funds for such services can be recovered by reallocating funds presently wasted by failed Co-Permittee watershed management practices.
5. As mitigation for a pattern of failed watershed management programs that flood creek and coastal waters, Co-Permitees should be directed to restore the Aliso Coastal Estuary Wetlands to 1970 water levels for the reintroduction of the federally listed tidewater goby.

Conclusion

Twenty years and \$20 million represents too much time and too much money wasted on mismanagement of dry weather urban runoff pollution contaminating Aliso Creek, Aliso Beach and the South Laguna State Marine Refuge. Water quality laws and regulations are not intended to be implemented for the convenience of Co-Permitees and their cohorts among the Residential Development and Building Industries. Dry weather MS4 discharges are directly attributable to the collective practices of these entities and constitutes an industrial wastewater byproduct.

Arguments to perpetuate and allow ongoing water pollution based upon "Maximum Extent Practicable", while being a scientifically imprecise concept, does not on balance take into account "practical" protection of irreplaceable coastal wetlands and ocean resources unnecessarily flooded by dry weather MS4 discharges. Nor does this argument account for the "unpractical" and costly poisoning of local sea mammals, birds and humans with water borne illnesses.

The San Diego Watershed Treatment System, supervised by the Santa Ana Regional Water Quality Control Board, demonstrates the effectiveness of strategic interventions sited among known inland point sources. Removing harmful dry weather urban runoff water quality constituents and elevated flows is possible through aggressive leadership by Regional Boards.

The South Laguna Civic Association appreciates the efforts by the San Diego Regional Water Quality Control Board to consider the enormous impacts of uncontrolled MS4 dry weather urban runoff pollution before approving a genuinely effective Storm Drain Permit Program for the Aliso Watershed.

Respectfully submitted,

Michael Beanan, Director
South Laguna Civic Association

ALISO CREEK

BIOREGIONAL WATERSHED MANAGEMENT PROGRAM

INTRODUCTION

Today, many coastal and inland cities are involved in pioneering efforts to understand the impacts of urban development on the rivers and creeks that flow within their boundaries. Identified as bioregional watershed studies, these efforts attempt to look at a river, creek, bay or cove, measuring water quality at every major sector including storm drains, and extending into receiving waters with significant impacts on irreplaceable, fragile habitats.

The data derived from these efforts can be used to identify a contaminated area or condition. This provides the foundation for intervention(s) under a watershed management program. Overcoming institutional thinking within and beyond the local government agencies that insist upon cheap, short term and politically expedient solutions, which ultimately fail, still remains a significant hurdle in advancing ecological interventions.

The Aliso Creek Bioregional Watershed provides a unique area to implement a comprehensive and integrated action plan using a delicate partnership of government officials, academic scientists, business leaders, environmentalists and individual citizens.

BACKGROUND

The Aliso Creek Bioregional Watershed represents a semi-arid coastal canyon ecology in serious distress. The dual impact of pollutants and increased erosion from urban runoff is evidenced in beach contamination and the degradation of coastal waters. In addition, native flora and fauna has been negatively affected and in some cases displaced or lost. The water quality of urban runoff in Aliso Creek has been a problem for many years.

Health warning signs are often placed at the terminus of the creek into the Pacific Ocean because of water quality concerns. The principal problem concerns bacteria levels exceeding safe water quality standards in the creek and at its discharge across the beach. Other contaminants such as, domoic acid poisoning, thermal pollution and alterations in salinity, remain undetected and studies of the urban runoff impacts to estuarine, tide pool and near shore kelp forest habitats are not integrated in government watershed projects.

Contaminated discharge will subsequently be broadcast in waters utilized by migrating marine mammals and absorbed by game fish popular among commercial and recreational anglers. As littoral currents distribute the toxic discharge, surrounding beaches at Aliso Beach County Park,

Treasure Island Beach, Thousand Steps Beach and locally designated marine life refuges suffer severe, increased degradation and dangers to public health.

Many of the summer nuisance toxins contribute to birth defects and the incidence of cancer. Over the years, Aliso Creek has deposited silt to smother fragile coastal life forms. The federally protected tidewater goby is extinct and Aliso Beach is presently posted as a public health hazard. Once abundant kelp forests have greatly diminished or disappeared altogether, and the immune system of local coastal dolphins has reportedly been compromised by ongoing runoff pollution.

A comprehensive Bioregional Watershed Management Plan represents a deepening respect for the value of water as a precious life resource. Pilot Projects and coordinated Demonstration Programs can test emerging sound ecological science and distribute new findings to concerned agencies and organizations. The new water paradigm shift is drawing together local strategies, tactics and technologies to meet current and future water needs, based on sound ecological science.

PROJECT SUMMARY

The 5-R goals of urban runoff intervention and watershed management include and embrace:

- **Reduction** of point sources flows, such as excessive landscape watering.
- **Removal** and treatment of contaminants for discard, dilution and reuse.
- **Reuse** of treated runoff as New-Water for landscape/golf and other uses.
- **Revenues** enhancement as a result of New-Water subsidies and user fees.
- **Restoration** of damaged habitats, and of public awareness/use of resources.

The proposed Bioregional Watershed Management Program is conceptualized in Three Phases with generalized budgets estimated as follows:

<u>Phase One</u>	Site Selection/ Tech. Assessments/ 5-day Field Sampling/ Flow Analysis/ Testing Assumptions - each @ \$2,000	\$30,000
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<u>Phase Two</u>	90 Day Pilot Testing @100 GPM	72,000
<u>Phase Three</u>	Three Year Demonstration Project (offset by revenue)	\$ 625,000

Concurrent projects and activities in support of goals, and as byproducts of separate Phases:

<u>Marine Refuges:</u>	Restoration of Abalone and Garibaldi habitats	\$ 250,000
<u>Public Education:</u>	Outreach and Education Events	25,000

The goal seeks partnership funding and/or pro bono grants to provide for initial investment costs, and for increased new water revenue sources to cover ongoing costs on a sustainable basis.

ALISO CREEK BIOREGIONAL WATERSHED MANAGEMENT PROGRAM

PHASE I: 30 Day Site Selection and Flow Rate/Water Quality Analysis

<u>Pre-Project Elements</u>	<u>Subtotal</u>
A) <u>Site Selection</u> – Review potential project sites to confirm adequate, infrastructure support (i.e. power sewer & reclaimed water lines, stormdrain outlets, etc.) in selecting ideal situs	\$ 2,500
B) <u>Water Contracts</u> – Negotiate and secure water reuse contracts with local Water Districts to supplement and improve existing reclaimed water supplies. Identify any water rights requirements	2,500
C) <u>Water Quality Analysis</u> - Conduct series of water quality samplings and analysis panel to confirm pollution constituent at three locations: 100 yards upstream of project site; project site; 100 yards downstream	7,500
D) <u>5-Day Equipment test</u> – Deploy field test and decommission field test of project technologies. Conduct bi-hourly WQ sampling at principal filtration ports	12,000
E) <u>Public Education</u> – Organize and host press event to highlight pilot project goals, objectives and preliminary field results	1,500

F) <u>Pre-Project Reports</u> – Consolidate and analyze WQ sampling , infrastructure and equipment field test Results to finalize Phase II Protocols	1,800
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TOTAL

\$ 27,000

PHASE II: 90-Day Assessment and Pilot Test Budget Estimate

<u>Pilot Project Elements</u>	<u>Subtotal</u>
A) <u>90 day pilot test</u> - The selected treatment system will be operated for a period of 90 days treating creek water, to attain Rec (1) standard for human contact. Treated water will be released back to creek.	\$ 15,000
B) <u>Treated water analysis</u> - Treated water samples will undergo laboratory analysis to timely determine the effectiveness of the treatment effort.	10,000
C) <u>Develop public awareness strategy</u> - Investigate alternatives to provide area residents with information relative to intervention measures being undertaken. Contact local homeowner associations to enlist support and sponsorship of runoff reduction/habitat restoration initiatives.	3,000
D) <u>Identify regulatory issues</u> - Analyze potential beneficial impact of various regulations and requirements if properly implemented.	2,000
E) <u>Local agency contacts</u> – Continue initial contacts to secure necessary permits and project cooperation.	2,000

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|---|-------|
| F) <u>Water reuse evaluation</u> - Examine possible alternatives to reintroducing the water to the creek including further treatment and reuse. | 3,000 |
| G) <u>Contingent Water Capture</u> – Capture and pump on temporary basis accumulated urban runoff @creek/beach terminus (in excess of 12” pond depth) to existing municipal sewer lift | 5,000 |
| H) <u>Program Planning</u> – Prepare planning documents, activities and timelines for Three to Five Year Demonstration Project. Scale treatment system requirements, establish water reuse alternatives, draft grants for state/federal funds, design program evaluation model. | 4,000 |
| I) <u>Project Management</u> – Administer operations, approve fund dispersals, coordinate with city, community, industry and related organizations, media relations, project evaluation and reports. | 5,000 |

Total	\$50,000
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Project Overview – Phase Three and Concurrent Projects

With the successful completion of Phase Two activities, the Three Year Demonstration Project will provide:

Strategies, Technologies and Services - Field utilization and evaluation of existing and emerging technologies, strategies, products and services in a controlled application

Outreach and Education – Sustain and increase overall participation and support for runoff reduction / removal & reuse / restoration efforts from a variety of populations in the private and public sectors

Project Organizational Management – Coordinate all activities and capital, labor, material resources. Conduct weekly staff team meetings and reconcile all financial accounts. Prepare and submit project reports, grants, exhibits, etc.

Operations are designed to complement existing and proposed sources of funding and in-kind contributions from the public and private sectors to avoid duplication of services and create synergy among otherwise disparate interventions.

A. **STRATEGIES, TECHNOLOGIES AND SERVICES**

1. **RUNOFF REDUCTION**

In coordination with current activities by public jurisdictions within the bioregional watershed, water agencies, developers and environmental organizations, the Demonstration Project will field test, apply and evaluate existing and emerging urban runoff reduction and water quality enhancement strategies and technologies across significant levels of analysis:

Residential

- Install remote monitored irrigation sensors
- Household toxin/fertilizer replacement program
- Two-tier water rate incentive structure

Neighborhood/Development

- Herbicide, Pesticide, Fertilizer reduction/replacement
- Street/Park debris clean up
- Flow rate and water quality monitoring/sampling/testing program for each storm drain/creek outlet
- Drain pack filters at all storm drain inlets
- Biofiltration ponds, parks, basins to metabolize target contaminants and evapotranspiration 10%(+-) of flow rate
- Weekly sampling/testing at watershed sector boundaries

2. TREATMENT

Urban runoff treatment will incorporate strategies to address flows from point sources as well as accumulations of nuisance water at the neighborhood and biosector levels.

Residential

Recontour properties to retain/absorb on-site low flow domestic and first flush runoff water

Introduce dual plumbing for landscape and sewage disposal use

Enrollments in home water conservation program and rebates

Neighborhood/Development

Biofiltration for wetland ponds, parks, groundwater replenishment wells and pre-treatment for filtration technology

Bioregional

Multiple Urban Runoff Recycling Integrated Treatment (MURF) system to filter and remove contaminants to Rec (1+) standards

Release limited flows of treated water to maintain proximate natural creek flows/habitat

Polish surplus water w/ Reverse Osmosis (RO) & Ultraviolet (UV) Light Technology for new water redistribution system

3. RESTORATION

Reduce contamination and excessive runoff flows to support habitat mitigation/restoration programs in riparian, creek, beach and ocean habitats:

Pre-project Baseline Data Mapping

Video survey, field inventory and GIS map pre-project key habitat profiles @ gully, creek, beach, tide pool and underwater sites

Literature review of flora/fauna history in preparation of historical habitat maps

Habitat restoration design, schedule, budget parameters for native riparian, coastal and underwater flora/fauna program

Preliminary Restoration

Removal of non-native plants; hillside and riparian contouring
Construction and grading of water quality wetlands;
installation of earthen swales, watercourses; and replanting
of native plant habitats in creek, beach, ocean sites per plan

Habitat Restoration Program

Urban stream park planting, irrigation, maintenance
Underwater kelp reforestation park, mariculture sites (e.g.
abalone, scallops, lobsters, crabs, etc.) and maintenance
Docent guided tours to creek , tide pool and underwater
restoration sites

B. **OUTREACH AND EDUCATION**

1. **MEDIA OUTREACH**

A series of newspaper articles, television interviews, human-interest stories and one press conference have established a sound foundation for Phase Three activities. Project team members continue to network with their affiliate groups and organizations to inform and refine the overall goals and objectives of the watershed management program. Additional relationships through private meetings are in place to nurture a sense of group ownership in not only the watershed but in opportunities for bioregional strategies elsewhere.

Future news articles promoting runoff recovery/treatment/reuse to achieve habitat restoration are planned to stimulate a new public perception in recycled water opportunities. Pilot applications of water reuse to irrigate golf courses appear to have widespread appeal.

2. EDUCATION

Significant momentum to improve watershed management is now underway as a key component in developing public awareness and cooperation. Specific activities contemplated to support outreach and education include:

- Design, produce and present to a variety of education, community, professional, government groups a twenty minute 2D power point overview and accompanying pamphlet of Bioregional Watershed concepts and strategies with text and basic illustrations.
- Organize and conduct small enrollment, after school and Saturday workshop format education/training program to familiarize participants with academic underpinnings of social ecological interventions while providing regular hands-on field training exposure to riparian, coastal and ocean restoration techniques for academic credit at affiliated schools and colleges.
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social ecological interventions while providing regular hands-on field training exposure to riparian, coastal and ocean restoration techniques for academic credit at affiliated schools and colleges.

- Design and produce banners and coloring book artwork by Orange Coast College students working with elementary students to educate children and parents of the uniqueness of kelp forest, tide pool and riparian ecosystems.
- Multimedia exhibit featuring ocean thematic art at local galleries.
- Junior water monitor program modeled after Hartford Life Insurance Company's Junior Fire Marshal Programs at local elementary schools to identify and inventory residential household toxins. Semi-annual round-up of household contaminants and replacement with nature friendly alternatives.
- Additional projects emerging from Project Team input and recommendations from the watershed community.

3. **COMMUNITY OUTREACH**

Regular distribution of outreach/education information can occur in conjunction with parallel efforts by the County of Orange, Surfrider Foundation and OC Coastkeeper to include:

Mailings Local Residents
 Environmental Organizations
 Water Agencies and Institutes
 Elected officials
 Schools and Colleges

Media Monthly Press Updates
 Special Topics and Human Interest Stories
 Exhibits/ Press Conferences

Meetings Officials
 Environmental Groups
 Community Groups and Homeowners' Associations

Schools and Colleges

4. EVALUATION

A comprehensive program evaluation utilizing multi-variable analysis will assess the impacts of the above outreach and education interventions. Among indices to identify and track will be:

- Type and number of participants in each project component.
- Changes in measurable behavior relative to runoff reduction, reuse and restoration activities.
- Water conservation enhancements, such as reduced flow rates and improved water quality.
- Non-proliferation of herbicides, pesticides and similar contaminants in targeted neighborhoods.

The Outreach/Education Program Evaluation Component will be coordinated with researchers from the School of Social Ecology, UC Irvine to generate independent quarterly summary reviews and to supplement data in the Annual Phase Three Project Report.